predict quality of life utilities, diabetes complications and mortality. **METHODS:** A microsimulation model was constructed which followed people with newly diagnosed diabetes over a period of 10 years. HbA1c level determined when a person was assumed to undergo escalation in diabetic treatment (from monotherapy with non-insulin hypoglycaemics to dual therapy to triple therapy and insulin). Information on efficacy and toxicity of therapies were derived from clinical trial data. Health care utilisation and costs were sourced from Australian government websites. Risk equations using change in HbA1c as a predictor for complications, quality-adjusted life years (QALYs) and death were derived from published data from large Australian diabetes cohorts. Probabilistic sensitivity analyses were undertaken. Two classes of drugs were investigated as alternatives to sulphonylurea when given in combination with metformin: DPP-IV inhibitors (sitagliptin, vildagliptin, saxagliptin, linagliptin, alogliptin) and SGLT-2 inhibitors (canagliflozin, dapagliflozin). **RESULTS:** In general, the results for the CUA were similar between the two drug classes compared to sulphonylureas, with ICERs ranging from AU$40K/QALY to AU$50K/QALY. The proportion of diabetes complications dropped by 3-4%, insulin treatment was delayed on an average of 2-3 years and a drop of 1-2% in mortality was observed. **CONCLUSIONS:** This model illustrates a new way of assessing the cost utility of diabetes medications. Furthermore, it shows that both DPP-IV and SGLT-2 inhibitors represent cost-effective alternatives to sulphonylurea in combination with metformin.

PDB30

ANTI-DIABETIC DRUG UTILIZATION AND DYNAMIC TRENDS IN A TERTIARY HOSPITAL IN BEIJING (2008-2012)

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OBJECTIVES: In China, the age-standardized prevalence of diabetes is 9.7% (92.4 million adults). The rapidly-growing economic burden caused by diabetes renders the anti-diabetic drug utilization research more important than ever. This study intends to assess the utilization and its dynamic trends of anti-diabetic drugs in a tertiary hospital in Beijing, China. **METHODS:** Data were extracted from pharmacy department of a tertiary hospital in Beijing between 2008 and 2012. Descriptive analysis was conducted using SPSS 20. By applying the Anatomical-Therapeutic-Chemical methodology (ATC) and Defined Daily Dose system (DDD) recommended by WHO, the collected data were used to calculate the number DDD per 1000 inhabitants per day (DDD/1000/day). Annual average growth rate (AAGR) was calculated to demonstrate dynamic trends in utilizations over time. **RESULTS:** There are three major findings: 1) By pooling the five year data together, we found the top three drug categories were sulfonylureas (3032.87 DDD/1000/day), human insulin (2677.48 DDD/1000/day) and biguanides (1830.52 DDD/1000/day), accounting for 30.95%, 27.32% and 18.68% of the total DDDs, respectively. 2) In each category, the rankings in utilization according to DDD were gliclazide, glimepiride, gliquidone for sulfonylureas, and Novolin 30R, Novolin R, humulin for human insulin, and metformin for biguanides. 3) Drug utilizations increased rapidly from 1647.13 DDD/1000/day in 2008 to 9798.86 DDD/1000/day in 2012, with AAGR of 13.41%. The utilization of insulin analogue increased fastest (AAGR 33.21%), followed by glinides (AAGR 27.18%) and biguanides (AAGR 20.77%). **CONCLUSIONS:** In a tertiary hospital in Beijing, the total DDD of anti-diabetic drugs was largely contributed by sulfonylureas, human insulin and biguanides, in descending order. Utilization of anti-diabetic drugs increased significantly during 2008-2012, possibly driven by increasing prevalence, new treatments, and so forth.

DIABETES/ENDOCRINE DISORDERS – Patient-Reported Outcomes & Patient Preference Studies

PDB31

DEMOGRAPHICS AND HEALTH OUTCOMES ASSOCIATED WITH ADHERENCE AND NON-ADHERENCE AMONG TYPE2 DIABETICS IN CHINA

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OBJECTIVES: Adherence to treatment is an important predictor of health status. This study investigated medication adherence among respondents with type 2 diabetes (T2D) in China. **METHODS:** This study included data from the 2013 China (N=19,987) National Health and Wellness Survey (NHWS), a cross-sectional survey of self-reported demographics, health outcomes, and behaviors among urban (mainly Tier I and II cities) adults (≥18 years). Respondents diagnosed with T2D and taking a prescription medication for T2D were analyzed (n=510). Adherence was measured using the 8-item Morisky Medication Adherence Scale (MMAS). Adherence was classified as scoring between 0-2 on the MMAS. Characteristics of non-adherent and adherent respondents were reported descriptively. Multivariable regressions, adjusting for demographics and health behaviors were performed to explore differences on health status (SF-36v2), resource utilization in the past six months and productivity loss (Work Productivity and Activity Impairment questionnaire) between adherent (n=184) and non-adherent respondent groups (n=326). **RESULTS:** Respondents who were non- adherent to diabetes medications tended to be younger, employed and had regular consumption of alcohol when compared to respondents who were adherent. Controlling for covariates, respondents who were adherent to their medications had higher mental component summary and health utility scores compared to non-adherent respondents ($p<0.05$). Among the employed sample, non-adherent respondents reported greater absenteeism (13.1% vs. 7.7%), greater presenteeism (39.8% vs. 30.9%), and greater overall work impairment (44.8% vs. 33.7%) compared to adherent respondents. Non-adherent vs. adherent respondents reported more activity impairment (38.8% vs. 33.7%). Physician visits in the past six months was higher among those who were not adherent (6.0 vs. 4.6), but there was no significant difference in hospitalization and ER visits among the two groups. **CONCLUSIONS:** A greater number of T2D respondents were not adherent to their diabetes medication. Not surprisingly, health outcomes were worse among adults not adhering to their medications.

PDB32

A PROSPECTIVE, CROSS-SECTIONAL STUDY ON COST AND ADHERENCE OF ANTIDIABETIC PRESCRIPTIONS AT A TERTIARY CARE TEACHING HOSPITAL IN SOUTH INDIA

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OBJECTIVES: To study prescription pattern, calculate the cost of antidiabetic drugs and to evaluate the adherence to treatment guidelines in diabetic patients attending the medicine outpatient department in a tertiary care teaching hospital. **METHODS:** A prospective observational study was carried out for a period of 5 months. The diabetic patients who visited the medicine outdoor department were included. Demographic data and complete prescription details were recorded in the structured case record form. Cost of the drug therapy was calculated from the patient's bills. Indian Council for Medical research guidelines-2005 for diabetes management was used to evaluate the adherence. **RESULTS:** A total of 250 patients were enrolled in the study with mean age 57.91 ± 9.37. Out of 250 patients 126 (50.4%) were male and rest were female. A total of 1,391 drugs were prescribed, with mean of 5.56 ± 2.52 drugs and out of which 539 drugs were antidiabetics with mean of 2.18 ± 0.96. In monotherapy, metformin was frequently 218 (40.45%) prescribed. Glimepiride and metformin was the most frequently prescribed in 119 (76.28%) out of 156 antidiabetic drug combinations. Most commonly used drugs other than antidiabetics were aspirin 146 (18.9%) and atorvastatin 119 (15.41%). Mean cost of therapy for a month for a diabetic patient was 354.60 ± 305.72 INR. Majority 209 (83.6%) of prescriptions was in accordance to guidelines. **CONCLUSIONS:** Metformin was the most frequently prescribed drug in the diabetes patient. Metformin and glimepiride being the most frequent combination used. Majority of the prescriptions followed standard guidelines. The cost of prescription can be reduced by choosing the most economic drugs (generic) without changing its quality.

PDB34

MEDICATION COUNSELING BEYOND INSTITUTIONAL: IMPACT OF PHARMACIST-LED HOME MEDICATION REVIEW IN TYPE 2 DIABETES PATIENTS

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OBJECTIVES: To evaluate the impact of home medication review programme (HMR) towards Type 2 Diabetes patients from public primary centre in Penang, Malaysia. **METHODS:** A prospective randomised control study was conducted at Primary Clinic in Bukit Minyak, Penang. Eligible Type 2 diabetes patients with HbA1c > 6.5% and taking ≥ 3 medications who stayed at their own house were recruited and randomly allocated into control and intervention group by coin tossing. Control group patients received usual care from the clinic whereas intervention group patients received additional 2 visits at their home by pharmacist. During both visits, education on quality use of medications and life-style modifications were performed.Blood pressure monitoring, point of care for sugar and total cholesterol levels were conducted in each visit. Patients adherence and knowledge were assessed using validated questionnaire. Pill count was conducted and excessive medications were collected to calculate the costing component. Primary outcomes were medication adherence and level of knowledge. Secondary outcomes included HbA1c, FBS and total cholesterol changes as well as patients' satisfactions towards HMR and direct cost saving from the programme. **RESULTS:** A total of 150 patients were recruited and randomly assigned in two groups (n=75 each group). Fifty patients in the intervention group completed the study. After 2 home visits there were significant improvements in the adherence score for the intervention group (mean score=6.90,SD=0.94) compared to the control group (mean score=4.05, SD=1.51). There was a significant improvement in knowledge score after HMR programme, intervention group (mean score=10.04, SD=1.75) and the control group (mean score=5.45, SD=1.89). A direct cost analysis of the medication wasted reveals that HMR can help to save RM 2805.50 (USD 855.34) throughout the eight months period. **CONCLUSIONS:** Pharmacist-led HMR have improved patients' adherence and knowledge as well as helping the policy makers to save money on excessive medication wastage.

PDB35

DOES DIABETES HAVE AN IMPACT ON HEALTH-STATE UTILITY? A STUDY OF ASIANS IN SINGAPORE

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OBJECTIVES: To compare the time trade-off (TTO) values of EQ-5D-3L health states elicited from Asians with and without type 2 diabetes mellitus (T2DM) and T2DM patients with and without complications in Singapore. **METHODS:** The TTO values of 10 EQ-5D-3L health states were elicited from a consecutive sample of T2DM patients and a general Singaporean population sample using an identical valuation protocol. In face-to-face interviews, T2DM patients and members of the general population were asked to value 5 and 10 health states, respectively. The difference in TTO values between the two samples and between T2DM patients with and without complications was examined using multiple linear regression models. **RESULTS:** A total of 109 T2DM patients and 46 persons without T2DM provided data for this study. All 10 health states considered, the mean TTO value was 0.04 for T2DM patients and -0.02 for the general population sample, with the difference (95% confidence interval [95%CI]) being -0.06 (-0.16, 0.03). The general population sample had systematically lower TTO values for mild health states, with the difference being -0.15 (95%CI: -0.24, -0.06); while the two samples had similar mean TTO values for severe health states, with the difference being 0.001